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plateau resources limited

Subject SUMMARY OF ESTIMATED RECLAMATION COST AFTER FINAL CLOSURE OF PROCESSING FACILITY

INTERNAL CORRESPONDENCE

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Enclosed is a summary of the estimated reclamation cost for the Processing Facility which also includes the decommissioning of the facility after final closure. This information was developed for the Division of Oil, Gas and Mining at the request of Ms. Pam Newman for financial surety arangements.

Implementation of the reclamation plan for the Processing Facility consists of the following features:

1. Decommissioning of Processing Facility

This involves dismantling, decontamination and disposal of all the process plant equipment, buildings and foundations above and below grade prior to the topsoil cover installation for land restoration. This will be completed in accordance with the then current regulations.

2.

a. Process Plant Land

b. Maintenance and Equipment Storage Yard

c. Solid Waste Disposal Site

d. Topsoil Stockpile Area

Reclamation of all the above areas involve leveling of the land in such a way that it approximately conforms with the general topography of its surroundings and the general surface gradient is maintained towards the tailings impoundment area wherever possible. The Entire area will then be covered with a 1 foot thick layer of previously stockpiled topsoil, fertilized and seeded to promote native vegetation as described in the reclamation plan submitted earlier.

3. Process Plant Access Roads

Various process plant access roads, at the closure of operation, will be ripped, re-graded and reclaimed as described in Number 2.

4. Tailings Impoundment Area

After a detailed evaluation of the different options for the tailings disposal program, a staged covering and reclamation of the tailings impoundment area was selected for this project in order to minimize radon emission during operation.

This technique of tailings management consists of dividing the whole impoundment area into possibly three sections. Each section represents a storage area for the tailings for a specified period of time which will be designated as a stage for the operation of the plant.

Stage I involves a total storage area of approximately 20 acres and would last for about 7 years of operation. This section of the impoundment is planned to contain five tailings collection cells. All these cells have an underdrainage system of perforated pipes (see Final Tailings Dam Design, Stage I, for details). Effective operational procedure will dictate the number of cells used at any one time.

After the tailings in any cell has reached a predetermined elevation, it will be inactivated and as soon as this individual cell has dried sufficiently to allow the movement of equipment over the pile, the area will be reclaimed as described in the reclamation plan.

Construction of the second section for Stage II tailings impoundment would be started prior to the period Section I has reached its capacity. The tailings will be discharged into any of the cells in Section II while the areas in Section I have been or are being reclaimed.

This operational philosophy would leave a very small area to be reclaimed after the final closure of the Processing Facility. It is estimated that after the final stage of the operation, the maximum area left for reclamation will be about 25 percent of 25 acres (area of final storage section, 6 cells). Data developed during the operation of Stage I will be used to design and construct future cells.

SUMMARY OF ESTIMATED RECLAMATION COST
AFTER FINAL CLOSURE OF THE PROCESSING FACILITY

Facility	Area To Be Reclaimed (Acres)	Unit Cost Per Acre	Total Estimated Cost
1. Process Plant Decommissioning	(See Attached)		$245,000
2. a. Process Plant Land	14	$2830	$39,620
b. Maintenance And Equipment Storage Yard	2	$2860	$ 5,720
c. Solid Waste Disposal Site	5	$2890	$14,450
d. Topsoil Stockpile Area	7	$1625	$11,375
3. Process Plant Access Roads	6	$3400	$20,400
4. Tailings Impoundment Area After Final Closure	6.25	$38,000	$237,500
			$329,065

DECOMMISSIONING OF
URANIUM PROCESS FACILITY AT SHOOTERING CANYON

Decommissioning of the proposed Shootering Canyon Uranium Process Facility will be accomplished by performing the following phases of work:

- Dismantle
- Decontaminate
- Disposal

The purpose of decommissioning is to prepare the site for final reclamation. Final reclamation is the work of returning the site to an acceptable natural state and is accomplished after decommissioning.

1. Dismantle

Dismantling is the organized destruction of the facility and equipment to facilitate the next two phases of work. However, prior to the start of actual dismantling, a radiological survey will be conducted to determine the amount of decontamination required for specific areas and items, from which an economical determination can be made to determine what items are marketable and what items will require burial during the disposal phase. From this, the plan of work and work schedules are developed.

Dismantling includes the removal of these items that cannot be decontaminated in place and moving them to a designated area for decontamination. It also includes the removal of those items that are pre-designated for direct burial.

Those items pre-designated as marketable, including structures and buildings, will be match-marked and dismantled with care so as not to reduce their value.

2. Decontaminate

Decontamination is the work required to lower the existing radiation hazard levels to those levels acceptable to governing agencies and applicable regulations so that marketable items and material can be removed from the plant site for resale or other disposal. Past experience has shown that most of the decontamination levels can be met by applying a low-pressure air-water wash, and that the remaining levels can be met by using a light sand blast and/or water wash.

Therefore, it is assumed that for those items being decontaminated, 80% will be by water wash and 20% will require additional work, including minor partial disassembly.

3. Dispose

Disposal is accomplished by:

- o removal from the plant site of marketable items
- o removal from the plant site of unmarketable items for direct burial in the tailings impoundment area

The marketable items should include:

- o marketable scrap
- o marketable equipment, structures and material having resale value.

The items designated for direct burial are those that are difficult to decontaminate, such as wood tanks, and those that are not economical to decontaminate, such as small pumps and motors too costly to refurbish, etc.

It is also assumed that the items to be disposed by direct burial will be buried in that area of the tailings impoundment that is last remaining from the operation and is yet to be reclaimed. The items will be buried in the tailings sands and will be above the clay liner but below the nine (9) feet of cover required for reclamation. The items subject to cause surface subsidence by collapse of the cover material falling into the void of buried items, will be minimized by packing the voids with other items and tailings and/or earth material.

4. Technical Assumptions

Work is assumed performed under separate subcontract:

- o All roofing and siding removed and disposed of at site by burial
- o All structural steel dismantled and decontaminated by air water wash and salvaged.
- o All concrete is removed to 2'-0" below grade and disposed of by burial at site, as fill within the crusher pit or within the tailings impoundment as required
- o All wood tankage is scrapped assumed as nonsalable and buried at site
- o All FRP tankage is scrapped assumed as nonsalable and buried at site
- o The following types of permanent equipment are assumed nonsalable and buried at site:

pumps and sumps
agitators and mixers
samplers and similar items

- Below ground piping, plumbing and electrical distribution systems are left in place and sealed at exposed ends.
- All building materials and fixed components are scrapped

ESTIMATED DECOMMISSIONING COST FOR
THE PROCESSING FACILITIES AT SHOOTERING CANYON

Dismantle and Dispose Non-Salable Items

Facility	Quantity	Man Hours	Rate/Hour	Cost
1. Structures Work (includes roofing and siding)	870 Tons 93,500 Ft^2	13,000	@ $12.00	$156,000
2. Concrete Work (2' Below Grade)	4,170 c.y.	8,500	@ $12.00	$102,000
3. Process Equipment (30% Burial)	1,335 Tons	14,500	@ $18.00	$261,000
4. Piping & Insulation (30% Burial)	Lump Sum	6,500	@ $18.00	$104,000
5. Electrical & Instrumentation	Lump Sum	4,500	@ $16.00	$ 72,000
6. Building Components	772,000 Ft^3	2,000	@ $20.00	$ 40,000
7. Demolitions All Other Items		1,500	@ $12.00	$ 18,000
Sub Total				$753,000
DECONTAMINATION ALLOWANCE		6,400	@ $12.00	$ 76,800
DIRECT COST				$829,800
				(Approx. $830,000)

ESTIMATED DECOMMISSIONING COST - Page 2

	Cost
INDIRECT COST (PRL overhead, contingency, etc.- 35%)	$290,500
TOTAL COST (Processing Facility Dismantling, Decontamination & Disposal)	$1,120,500

ESTIMATED DECOMMISSIONING COST FOR
THE PROCESSING FACILITIES AT SHOOTERING CANYON

Anticipated Salvage Value

	Item	Quantity	Cost/Unit	Total Value
1.	Permanent Equipment	995 Tons	$400	$ 398,000
2.	Structural Steel	720 Tons	$200	$ 144,000
3.	Electrical Switchgear MCC & Distribution Cable	Lump Sum - $1,115,000	@ 17%	$ 189,500
4.	Piping	Lump Sum - $ 800,000	@ 12.5%	$ 100,000
5.	Miscellaneous - All Others	Lump Sum		$ 43,500
	TOTAL Salvage Value			$ 875,000
	TOTAL PROCESSING FACILITY DECOMMISSIONING COST			$1,120,500
	MINUS SALVAGE VALUE			-$ 875,000
	TOTAL ESTIMATED COST			$ 245,500

DETAILS OF ESTIMATED RECLAMATION COST AFTER
FINAL CLOSURE OF THE PROCESSING FACILITY

1.

(a) Process Plant Land

	Area	Quantity	Cost
Cover entire Process Plant area (14 acres) with 1' of topsoil previously stockpiled @ $1.00 per yd^3. $\left(\frac{14 \times 43560 \times 1}{27} = 22,587\ yd^3\right)$	14	22,587 $yd.^3$	$22,587
Fertilizing and seeding with native plant species: @$1200/Acre	14		$16,800
TOTAL.....			$39,387

(b) Maintenance and Equipment Storage Yard

Cover with 1' of topsoil previously stockpiled @$1.00 per yd^3 $\left(\frac{2 \times 43650 \times 1}{27} = 3227\ yd^3\right)$	2	3227 yd^3	$ 3,227
Fertilizing and seeding with native plant species-@$1200/Acre	2		$ 2,400
TOTAL.....			$ 5,627

ESTIMATED RECLAMATION COST - Page 2

(c) Solid Waste Disposal Site	Area	Quantity	Cost
Cover with 1' of topsoil previously stockpiled @ $1.00/yd^3 ($\frac{5 \times 43560 \times 1}{27}$ = 8067 yd^3)	5	8067 yd^3	$ 8,067
Fertilization and seeding with native plant species @ $1200/Acre	5		$ 6,000
TOTAL			$14,067

(d) Topsoil Stockpile Area			
Cover with 1' of topsoil previously stockpiled @ $.25/yd^3 ($\frac{7 \times 43560 \times 1}{27}$ = 11,293 yd^3)	7	11,293 yd^3	$ 2,823
Fertilizing and seeding with native plant species @ $1200/Acre	7		$ 8,400
TOTAL			$11,223

TOTAL COST OF a,b,c,d IN ITEM I..... $70,304

2. Process Plant Access Roads	Area	Quantity	Cost
(a) Ripping and softening of various roads in the Processing Facility area @ $600/Acre	6		$ 3,600
(b) Cover with 1' of topsoil previously stockpiled @ $1.00/yd^3 ($\frac{6 \times 43560 \times 1}{27}$ = 9,680 yd^3)	6	9,680 yd^3	$ 9,680
(c) Fertilizing and seeding with native plant species @ $1200/Acre	6		$ 7,200
TOTAL			$20,480

3. Tailings Impoundment Area After Closure of Processing Facility			
(a) Install 6' of clay over the tailings impoundment area. Clay to be imported from Borrow Area F or J. This material to be compacted to at least 95% of standard Proctor density @ $3.00/yd^3 ($\frac{6.25 \times 43560 \times 6}{27}$ = 60,500 yd^3)	6.25	60,500 yd^3	$181,500

3. (con't)	Area	Quantity	Cost
(b) Install 2' thick layer of locally available sandy soil material on top of the clay cover and compact @ $2.00/yd^3 $\left(\frac{6.25 \times 43560 \times 1}{27} = 20{,}167\ yd^3\right)$	6.25	20,167 yd^3	$40,333
(c) Install 1' thick layer of gravel and small rock on top to stabilize the surface against wind erosion, etc. @ $1.50/yd^3 $\left(\frac{6.25 \times 43560 \times 1}{27} = 10{,}083\ yd^3\right)$	6.25	10,083 yd^3	$15,125
TOTAL for Tailings Impoundment Reclamation.....			$236,958
TOTAL OF ITEMS 1,2, & 3.....			$327,742
			(approx. $328,000)